"Vision Zero" and Swedish Road Safety Development

TRAFIKVERKET

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Content

Vision Zero, five dimensions

Some examples of activities

The road transport system is an open and complex system

•Infrastructure
•Vehicles
•Road users
•Transports of goods ad passengers
•Road users on duty
•Companies and organisations

•Rules and regulations
•Enforcement
•Etc.

How is the system controlled?

Rules and regulations mainly controlling the users

What is the effect?

- More than 1,3 million fatalities (UN/WHO)
- Around 40 000 fatalities in EU

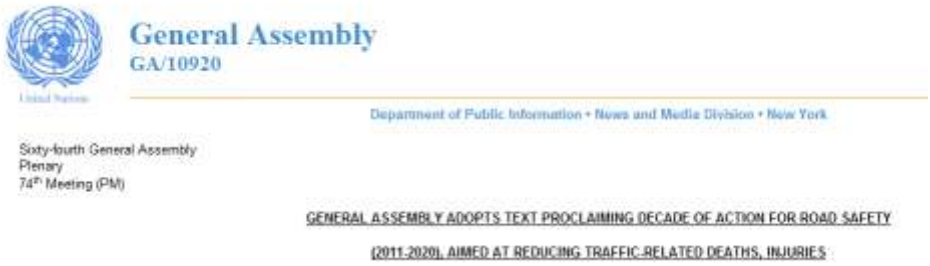
Is there hope?

Today's road transport system

- Major mismatch between components of the system
- Trade-off between health and benefits allowed
- Unclear responsibilities
- Unclear safety philosophy
- Weak driving forces for change

Road Traffic Safety is on the Agenda

- Traffic safety is a global public health issue
- Road traffic fatalities are the third or fourth leading cause of death within 15 years
- Traffic safety is an issue for the whole society



General Assembly
GA/10920

Department of Public Information • News and Media Division • New York

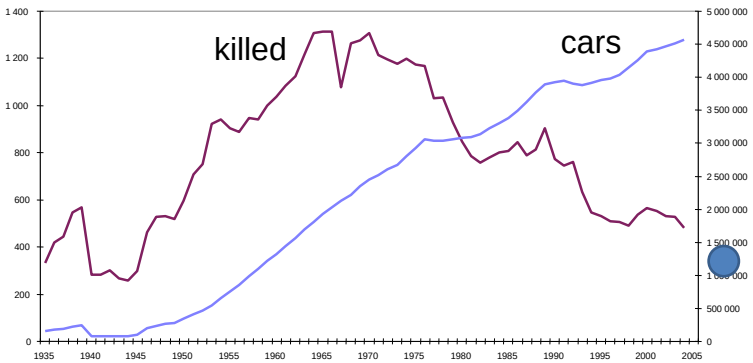
Sixty-fourth General Assembly
Plenary
74th Meeting (PM)

GENERAL ASSEMBLY ADOPTS TEXT PROCLAIMING DECADE OF ACTION FOR ROAD SAFETY

(2011-2020), AIMED AT REDUCING TRAFFIC-RELATED DEATHS, INJURIES

Development of fatalities in Sweden

(358 in 2009) 3,8/100 000 inhabitants (approximately 290 year 2010)



VISION ZERO : A SAFE TRAFFIC CONCEPT

History

- On October 9, 1997 the Road Traffic Safety Bill founded on "Vision Zero" was passed by a large majority in the Swedish Parliament. This represents an entirely new way of thinking with respect to road traffic safety.

Goal

- The long term goal is that no-one shall be killed or seriously injured within the Swedish road transport system.

Three important strategies

•setting targets and trying to manage improvements by measuring progress over time (EU/OECD/World Bank/ETSC PIN etc.)

•actions are expected from all stakeholders, including industry and private enterprise. This enables road traffic safety to be put on the market (i.e. ISO 39001)

•migration of safety actions into vehicles of the future. Technology now supports the driver in everyday driving (SBR, LDW, CitySafety etc.)

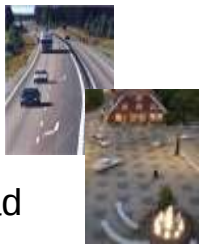
There are significant differences in how different countries and organisations introduce and implement modern traffic safety initiatives

Vision Zero ≠ Zero Fatalities (At least not only)
Vision Zero = 5 dimensions (or more?)

1. ethical platform
2. vision for many stakeholder
3. driving forces for change
4. shared responsibility
5. safety philosophy

Shared visions and Shared customers

Car



Road

Road User

Volvo Group Safety Vision

Adopted January 20th, 2010

Zero accidents with Volvo Group products

The Safety Vision points out the direction for our work. The vision of Zero accidents is a way of thinking, a mental image of an optimum future state. We are committed to always strive towards zero accidents with Volvo Group products.

SAFETY

Currently, 1.2 million individuals die in traffic accidents annually. Volvo Cars has a vision of no serious injuries or deaths in or by a Volvo car by the year 2020, in line with a long tradition focusing on safety. Safety efforts are based on behavioral science research and knowledge from actual traffic situations, which has paved the way for new, successful innovations. The path towards Volvo Cars' vision 2020 consists of two parts: its own development of safety efforts and partnerships with other key players in society.

Volvo Car Corporation

2008/09 CORPORATE REPORT

Responsibility must be shared by all those who participates in and create safe road traffic

- Politicians
- Road network responsible
- The Police

Traditional

- **Vehicle manufacturers**
- **Private companies, public entities who buy transport services and vehicles**
- **Health sector, Working environment sector**
- **Insurance companies etc**

Shared responsibility

- Historically main responsibility on the road user
- In Vision Zero the responsibility is shared between road users and system designers

(Even if 95% of all crashes are caused by driver error, the majority of the solution is not to change the driver. A safe system absorbs driver errors in a way that does not lead to serious consequences to the human beings.)

Shared responsibility

System designers are responsible for the design, operation and the use of the road transport system and are thereby responsible for the level of safety within the entire system.

Road users are responsible for following the rules for using the road transport system set by the system designers.

If the users fail to comply with these rules due to a lack of knowledge, acceptance or ability, the system designers are required to take the necessary further steps to counteract people being killed or injured.

Safety philosophy

Inspiration from other areas (i.e. occupational health and safety)

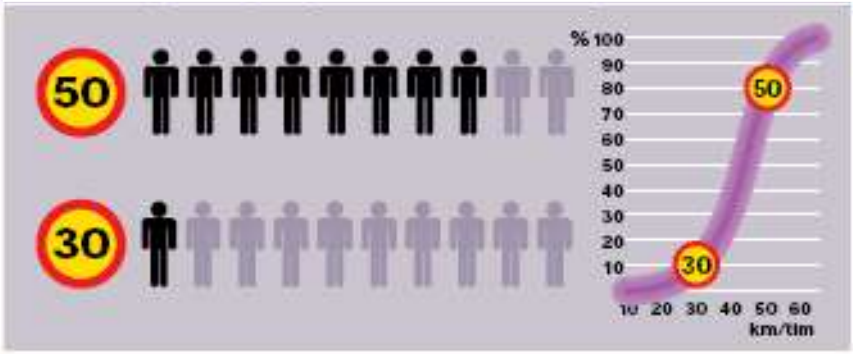
People make errors, mistakes and misjudgements

There are biomechanical tolerance limits

The chain of events can be cut at many places

Focus on injuries not crashes

The human as pedestrian road user



Model for safe traffic

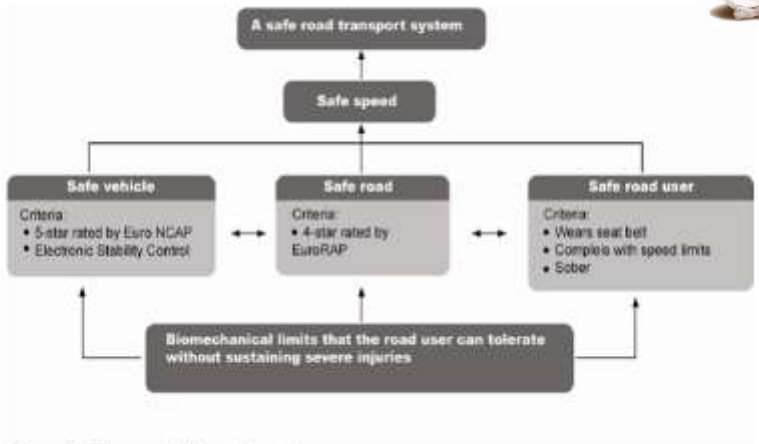


Figure 1. The model for safe traffic

So what has happened?

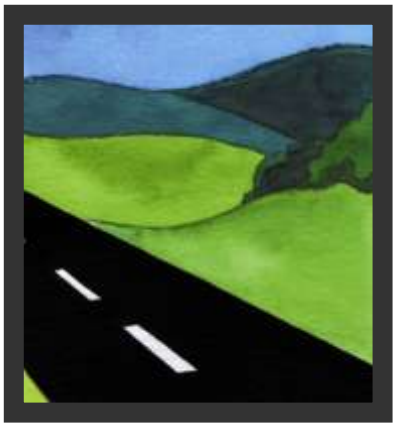
2+1 roads

- First built in 1998
- Built on existing 13m wide roads
- Now 1500 km
- Up to 90% reduction in fatalities
- Production cost 200-300 US$/m
- Popular among road users

Relative fatality risk/km/year

1 10 200

SAFE ROADSIDE AREAS



Design for people leaving the road

Separation of road users

UNIVERSITI PUTRA MALAYSIA

Intersections to roundabouts

Intersections to roundabouts

Building by-passes

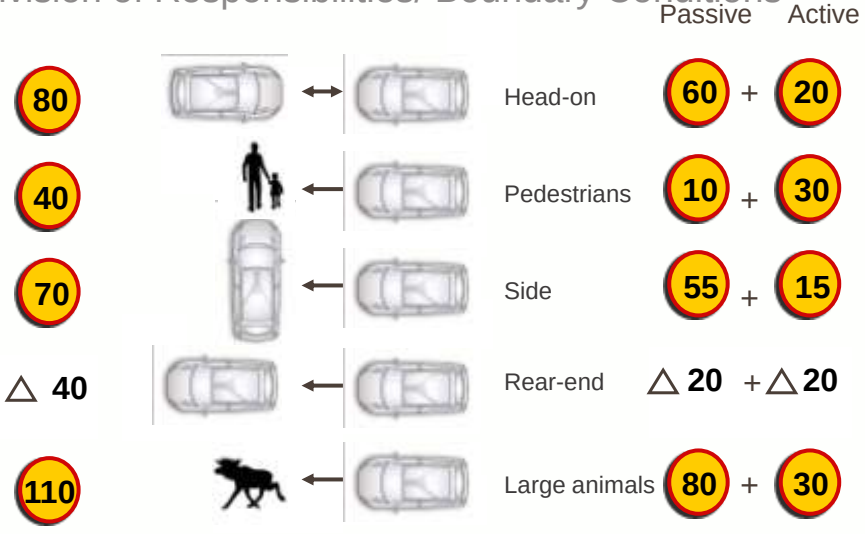
Systematic traffic separation

Systematic traffic separation

RIGHT SPEED

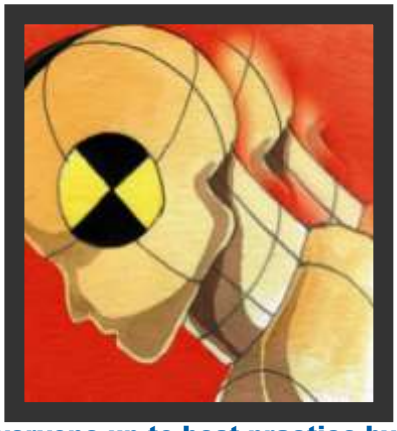
Vehicles, roads and speeds must match

Division of Responsibilities/ Boundary Conditions



COLLISION FOR SAFETY

(Euro NCAP)

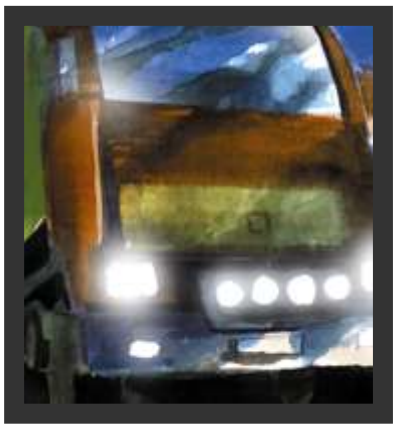


Get everyone up to best practice by telling the public about safety differences

TRAVEL POLICY IN COMPANIES

Everyone company has a responsibility to assure safety

Occupational health and safety



Every company having personnel out in the road transport system is responsible for the safety of the employees

ISO 39000
First International Meeting in June 2008

Behavior

Political behavior
Commercial behavior
Organizational behavior
Individual behavior

Working out which factors drive action is crucial

Obtaining numeric interim target (Sweden)

Indicator	Effect
1. Speed (rural)	21 %
2. Speed (urban)	7 %
3. Alcohol	7 %
4. Seat belt use	9 %
5. Bicycle helmet	2 %
6. Car safety	21 %
7. Heavy vehicles	6 %
8. Rural road design	15 %
9. Urban roads:1	
10. Urban roads:2	7 % (9+10)
11. Emergency response	
12. Fatigue	
13. Valuation of road safety	5 %(11,12,13)

Implementing Traffic Safety

Generally, there is a lack of structured, documented and effective processes and tools for the innovation, implementation and penetration of safety actions, particularly those that take place in a market climate.

Solving the right problems in the right way.

Innovation must take place in order to meet projected safety targets; these cannot be met by current countermeasures and technologies.

(Can knowledge be a helping hand to make things happen?)

Is there hope?

The world is taking traffic safety seriously

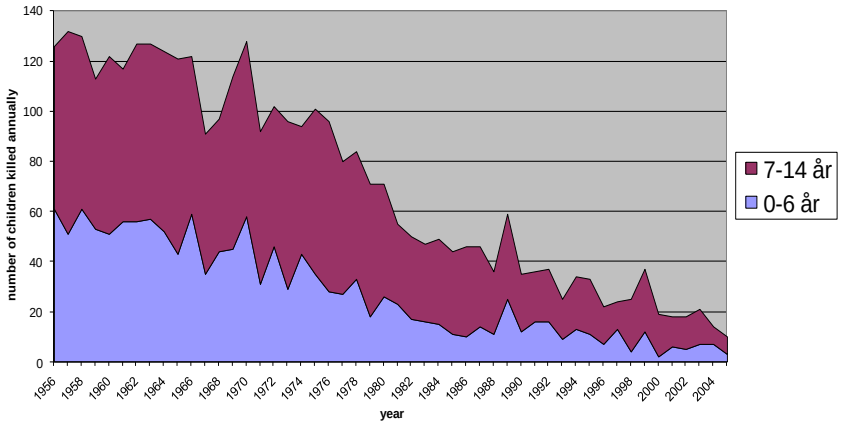
There is a more mature balance between demands and capabilities for the road users (Vision Zero)

More system designers are on-board (i.e. Volvo Cars Vision 2020)

The ISO 39001 can help organisations to support traffic safety in the future

Are we out of the mind trap? (95% driver error to be absorbed)

Children killed in traffic in Sweden 1956-2005



Thank You!

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